Océ CS 4040/4050

Installation Manual

Océ-Technologies B.V.

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Safety information

This manual contains the following safety information:
Where applicable, cautions and warnings are used throughout this manual to draw your attention to safety precautions to be taken.

Warning: This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

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Edition 1.1

US

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Chapter 1
Introduction

This Installation manual describes the features of the Océ CS 4040/4050 .

- *System overview*
- *Scanner configurations*

System overview

The Océ CS 4040/4050 and accompanying Colour Scan software allow you to scan-to-file drawings, maps, and pictures in colour or graytone mode.

CS 4040 Three 5350 RGB-triplet pixels and tri-linear colour CCD (charged coupled device) cameras.

CS 4050 Four 5350 RGB-triplet pixels and tri-linear colour CCD (charged coupled device) cameras.

The scanner has fluorescent lighting and individual adaptive light compensation on each pixel.

Scanner features

The Océ CS 4040/4050 comprises the following features:

- Media thickness up to 0.6” (15 mm)
- Variable resolution in one-dpi increments
- Individual tone adjustment for each colour channel (RGB) via gamma and black and white point correction
- Colour and monochrome 2-D sharpening and softening filters to enhance fine details and reduce moiré effects when you scan halftone originals
- Colour calibration using the ANSI IT-8 colour reference chart to improve long term stability of the scanner colour balance, linearity and chromaticity
- ICC (International Colour Consortium) profile to support Colour Management Systems (CMS)
- Colour feature extraction to enhance clarity from poor quality originals and improve details in complex maps and drawings
- Monochrome scanner functions
- Scanning modes from true colour (24-bit RGB) to black and white

Operating modes

The CS 4040/4050 scanner scans documents in the following colour and black and white modes:

24 bit RGB colour mode This mode scans images at the full 24-bit true colour mode for 16.8 million colours.

Indexed colour mode When you scan documents with a limited range of colours, this mode maps true colours to an indexed colour palette. The scanner generates this colour palette automatically when it does an adaptive colour prescan of the original.

The scanner's ability to transform a true colour image from 16.8 million colours down to 16 or 256 colours greatly reduces the data volume. At the same time, the scan speed increases and the disk storage requirements decrease (needing only 4 bits or 8 bits per pixel, compared with the 24 bits required in true colour mode).

Feature extracted (classified) colour mode This mode uses colour mapping to sort the observed colour features in a document and to classify them into categories using a colour LUT (look up table). You can generate this LUT once and download it to the scanner for a similar class of documents. Colour mapping can improve details in complex maps or drawings, while increasing the scan speed and minimizing disk storage requirements.

Grayscale mode (256 levels) This mode scans the actual gray level of each pixel, up to 256 levels. Each pixel corresponds to 1 byte (8 bits). The images scanned in grayscale mode result in files that are 8 times larger than uncompressed files scanned in lineart mode at the same resolution.

Lineart mode (bitmapped, 2-level) This mode reproduces each scanned pixel as a single bit, either black (1) or white (0), depending on whether its gray level lies below or above the threshold level. This mode supports both fixed level and 2-D adaptive thresholding.

Dithered mode (halftone dither) Converts gray levels of the scanned pixels into halftones by dithering. This results in very high density line mode files that are much larger than uncompressed files scanned in line mode at the same resolution.

Scanner configurations

The Océ CS 4040/4050 exists in three different firmware configurations. The “Smart Card” gives you the option to upgrade the scanner firmware and add more functions.

Basic hardware

Resolution	400 dpi (optical)
Media Width	51.5” (1310 mm), 50” (1270 mm) scan width
Media thickness	0.6” (15 mm)
Dimensions (w x h x d)	61.4” x 7.3” x 18.3” (1560mm x 185 mm x 465 mm)
Weight	65 kg
Interface	Dual ultra-fast SCSI

Firmware configurations

Function	**I**	**II**	**III**
Maximum resolution	600	800	800
Speed	0.8” per second	1.0” per second	1.3” per second
2-D sharpening		Yes	Yes
2-D softening		Yes	Yes
2-D adaptive	Yes	Yes	Yes
Area diffusion logic (ADL)			Yes

Note: *2-D sharpening and softening apply to colour scanning. 2-D adaptive and ADL apply to monochrome scanning.*

To change firmware configurations, see ‘Upgrading the scanner firmware’ on page 36.

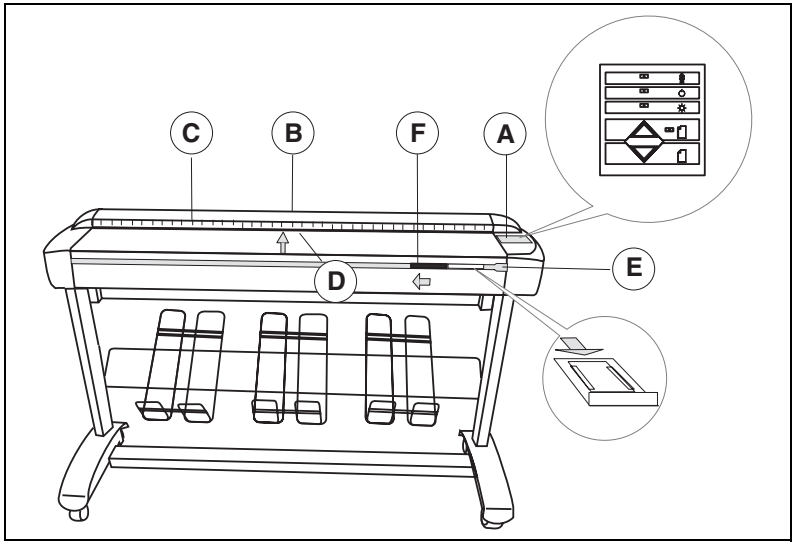
Chapter 2
Scanner installation

- *A first look at the CS 4040/4050 scanner*
- *SCSI installation*
- *Power supply connection*
- *Software installation*
- *General recommendations*

A first look at the scanner

This section introduces you to the basic parts of the scanner.

Front view



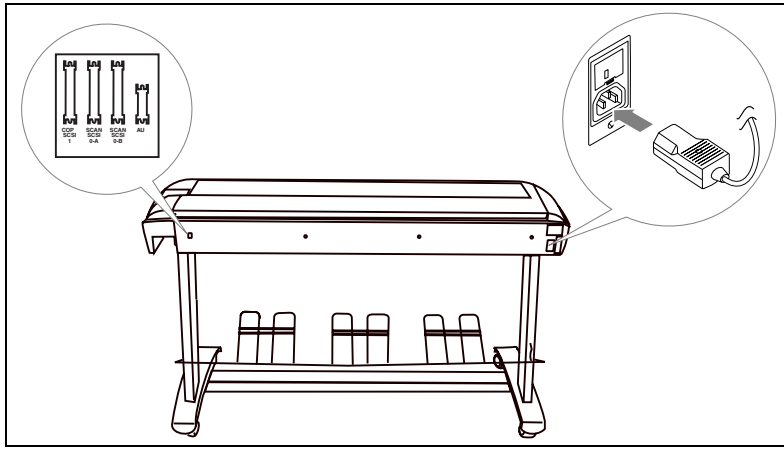
[1] Scanner front view

Label	Part or component
A	Control panel
B	Scanner cover
C	Ruler
D	Document insertion slot
E	“Smart card” holder (slide streamer to the left for access)
F	Streamer

Rear view

At the rear of the scanner, you can locate:

- The SCSI connectors (left)
- The “on/off” button and power connector (right)



[2] Scanner rear view

SCSI installation

On PC-DOS or compatible computers running Windows 95/98 or Windows NT 4.0, you must first install the SCSI board before you connect the scanner to your computer.

SCSI connection precautions

- Power off your system, your scanner, and all peripheral devices before you connect or disconnect SCSI cables. Failure to do this may result in a system crash and, in some cases, destruction of data on your hard disk.
- If the scanner is the last device on the SCSI bus, turn on the built-in active SCSI terminator (switch 4). Otherwise make sure you turn this switch off. Do not connect any other terminator on the unused SCSI connector, since switch 4 already specifies termination.
- The total length of all SCSI cables must be less than 4 meters.

SCSI board installation

The SCSI board comes with the SCSI interface kit.

Attention: *Use only the SCSI board provided with the scanner. Do not connect any other SCSI device to the same SCSI board.*

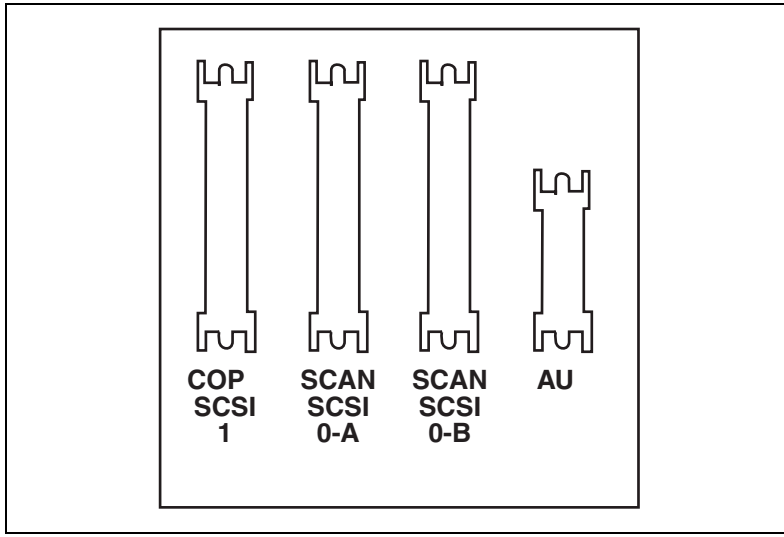
▼ **To install the SCSI board on the computer**

1. Power off computer unit and all peripherals, such as diplays or printers.
2. Unplug the computer and peripherals from the electrical outlet.
3. With a screwdriver, loosen the screws to remove the computer cover. Remove the top cover to expose the extension slots.
4. Choose a free extension slot. Loosen and remove the screw to the back panel.
5. Holding the SCSI board by its metal support bracket, align and press the board firmly into the extension slot.
6. Use the back panel screw to secure the board to the computer frame. (You put the top cover of the computer back on only after you have completed the entire configuration.)

7 For the SCSI driver installation under Windows 95/98 and Windows NT, please refer to the documentation delivered with your SCSI package.

Connection of the scanner to the computer

The SCSI cable connector is located at the rear of the scanner.



[3] SCSI connectors

▼ **To connect the scanner to the computer**

1 Check at the back of the scanner for the SCSI termination. If the scanner is the **last device** on the SCSI bus, turn on **switch 4**, the built-in active SCSI termination. If the scanner is not the last device, make sure switch 4 is off.

Attention: *Do not turn on switch 4 and use a terminator block at the same time.*

2 Switch off your computer and your scanner.
3 Disconnect the power cord.
4 Connect one end of the supplied SCSI cable into the SCSI board connector at the back of the computer.
5 Connect the other end of the SCSI cable to one of the SCAN-SCSI connectors (0-A or 0-B) on the back of the scanner.

Note: *You use the COPY-SCSI connector (1) when you run a separate "copy computer" configuration at the same time as the scan-to-file configuration.*

6 Set up the scanner SCSI address.

SCSI address setup

You set the SCSI device number on the DIP switch behind the scanner. The device number applies to both the SCAN-SCSI bus and the COPY-SCSI bus.

▼ **To set up SCSI device address**

1 Power off the computer and the scanner.
2 To locate the DIP switch, slide the streamer on the front of the scanner to the left.
3 Press the "Push" button to slide out the "smart card" holder.
4 Remove the "smart card" to access the switch.
Note: *Remember to replace the "smart card" before you turn on the scanner.*
5 Select an unused SCSI device address number according to the table below.

SCSI device no.	*Switch 1*	**2**	**3**	**4**	**5**	**6**	**7**	**8**
0	ON	ON	ON	-	-	-	-	X
1	OFF	ON	ON	-	-	-	-	X
•2	ON	OFF	ON	ON	OFF	OFF	OFF	X
3	OFF	OFF	ON	-	-	-	-	X
4	ON	ON	OFF	-	-	-	-	X
5	OFF	ON	OFF	-	-	-	-	X
6	ON	OFF	OFF	-	-	-	-	X
7	OFF	OFF	OFF	-	-	-	-	X
SCSI-0 built-in termination	-	-	-	ON	-	-	-	X X
SCSI-0 synch. transfer off	-	-	-	-	OFF	-	-	X
SCSI-1 synch. transfer off	-	-	-	-	-	OFF	-	OFF

[4] • Factory default

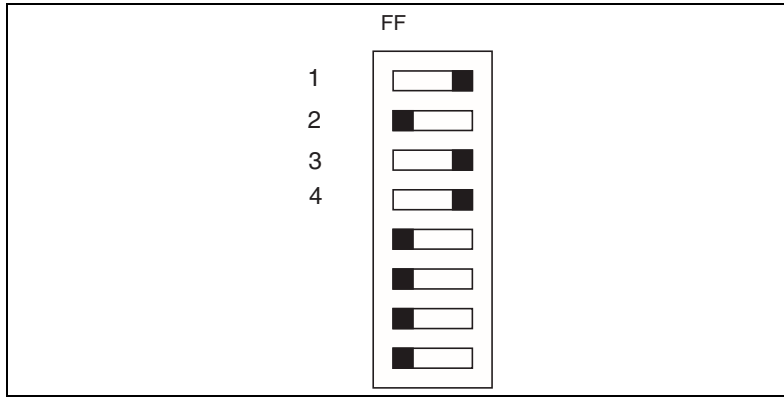
SCSI device no.	*Switch 1*	2	3	4	5	6	7	8
Force boot start up	-	-	-	-	-	-	OFF	X
Continuous test mode	-	-	-	-	-	-	-	OFF

[4] • Factory default

6 Verify that none of the troubleshooting and test switches (5,6,7,8) are on.
7 Power on the scanner, then the computer.

Default SCSI setup

The factory default SCSI settings are as follows:



Troubleshooting and test switches

For normal scanner use, verify that switches 5, 6, 7, and 8 (troubleshooting and test switches) are OFF.

Switch 5. SCAN-SCSI (connectors 0A and 0B): When ON, it disables SCAN-SCSI synchronous transfer mode (reverts to asynchronous transfer). Use this mode only for testing because it slows down the scanner.

Switch 6. COPY-SCSI (connector 1): When ON, it disables COPY-SCSI synchronous transfer mode (reverts to asynchronous transfer). Use this mode only for testing because it slows down the scanner.

Switch 7. Force boot start up: If a malfunction occurs during an update of the scanner firmware, this switch forces the scanner into firmware boot mode, enabling you to download the firmware again.

Switch 8. Continuous test mode: You should never use this switch, which is reserved for testing only by qualified maintenance personnel. The scanner is inaccessible.

Power supply connection

The Océ CS 4040/4050 use a grounded 3-prong power cord to connect to a grounded power outlet with a maximum 16-ampere protection.

Your electrical installation must comply with IEC 364 standards and the national standards of your country.

▼ **To connect the scanner to the power supply**

1. Locate the power connector at the back of your scanner.
2. Plug one end of the power cord delivered with the scanner into the connector.
3. Verify that the inlet voltage selector setting corresponds to the voltage of your electrical outlet.
4. Plug the other end of the cord into the electrical outlet.
5. Turn the **ON/OFF** switch to **ON**.
   The warm-up indicator on the scanner control panel lights up and remains lit while the scanner performs various internal diagnostic tests. When fully powered on, the Power-on indicator stays lit continuously.

Software installation

For the installation of “Océ Scan” and “Océ Colour Copy”, please refer to the software’s respective User Manuals or Installation Guides provided on this documentation CD.

General recommendations

Read and save these instructions for reference. Follow all warnings and instructions marked on the scanner.

Operating environment

- For best results, use your scanner in an environment with a temperature ranging from 59°F to 89°F (15°C to 32°C) and a humidity level of less than 80%.
- If you cannot meet these conditions, Océ recommends the installation of an air conditioning system.
- Position the scanner a few centimeters away from the wall so that the scanned originals can fall down freely to the collection basket.

Ensure that enough air circulates around the scanner to avoid overheating.

Safety recommendations

- Do not place the scanner on an unstable cart or stand. The unit may fall, causing serious damage.
- Turn the power off this unit before cleaning. Do not use liquid cleaners or aerosol cleaners.
- Use a damp cloth for cleaning.
- Operate the scanner using only the type of power source indicated on the marking label. If in doubt, consult your dealer or local power company.
- For safety reasons, the scanner works with a three-prong grounding plug to fit only into a grounded electrical outlet. Do not attempt to circumvent this safety feature.
- Do not allow anything to rest on the power cord. Do not place the scanner where people can walk on the cord.
- If you use an extension cord with the scanner, make sure that the total ampere ratings of the machines plugged into the extension cord do not exceed the cord capacity. Also, make sure that the total ampere rating plugged into the wall outlet does not exceed 15 amperes.
- Openings in the back or bottom of the scanner body cabinet are for ventilation. To protect the unit from overheating, do not block or cover these ventilation openings. Do not place the unit near or over a heating device.

- Never insert objects of any kind into the scanner through the cabinet slots since they may touch dangerous voltage points, resulting in a risk of fire or electrical shock.
- Never spill liquid of any kind onto the scanner.
- Do not attempt to service the scanner yourself. For all mechanical repairs, contact qualified technicians.

When to call a service technician

Unplug the scanner and call for a service technician if you encounter one of the following problems:

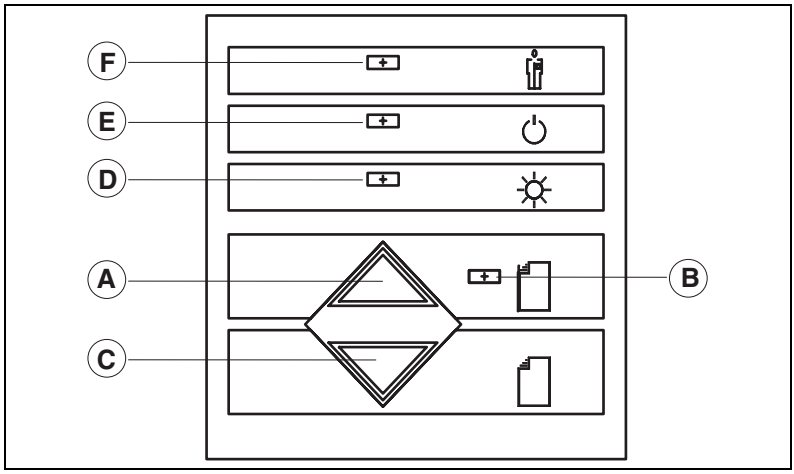
- there is damage to the power cord.
- liquid spills onto the scanner.
- the scanner came into contact with rain or water.
- the scanner does not operate properly under normal conditions even when following operating instructions.
- the scanner fell over or there is damage to the scanner body.
- the scanner exhibits a distinct change in performance which you cannot fix, even after carrying out the recommended equipment maintenance procedures.

Chapter 3
Scanner operation

- *Using the control panel*
- *Inserting a document*
- *Scanning thick media*
- *Checking camera alignment*
- *Performing colour calibration*

Scanner control panel

The control panel is located on the right hand side of the scanner body.



[5] Scanner control panel

Key or indicator	Function
(A) Paper feed	To insert a document in manual mode, press this key to move the document up to the start position. To eject the document, press and hold down this key. Scanning automatically stops.
(B) "Ready"	Lights up when the document is in correct scanning position. Blinks during scanning
(C) Paper reverse	This key stops the scanning process. To move the document backward through the scanner, press and hold down this key.
(D) "Power on"	This indicator lights up when you switch on the scanner.
(E) "Wait" (warm-up)	At start-up, this indicator lights up for at least 3 minutes until the scanner reaches the optimal temperature for operation. During this time, the scanner performs internal diagnostic checks. You cannot activate the scanner during this phase.
(F) Diagnostic	Blinks when the built-in diagnosis detects an error. When this indicator blinks at the same time as the "Wait" indicator, check the camera height alignment.

Inserting a document

You can insert a document into the scanner right or center-aligned, using measurements in inches, millimeters, or scanner units. You make these settings in the Océ Scan software.

Insertion slot

- A ruler at the top of the insertion slot give the width of a right-aligned document. You can slide out this ruler to switch to or from millimeters and inches.
- Markers at the bottom of the insertion slot help you center-align standard size documents for scanning.

Note: *It is preferable to center-align a document to position it symmetrically on the feed rollers during a scan.*

- You can also measure a document in scanner units.

Scanner units	Media size	Document width	
1.4	Minimum (A5)	6.0"	152 mm
2	A-Size (letter) and near A4	8.5"	216 mm
2.6	B-Size (11")	11.0"	280 mm
2.8	A3 (297 mm)	11.9"	302 mm
3	Near A3 and near B-Size	12.7"	323 mm
3.9	A2 (420 mm)	16.5"	420 mm
4	C-Size and near A2	17.0"	430 mm
5.2	D-Size (22")	22.0"	560 mm
5.5	A1 (595 mm)	23.3"	592 mm
6	Near A1 and near D-Size	25.4"	646 mm
7.8	A0 Portrait (841 mm)	33.1"	840 mm
8	E-Size and near A0	34.0"	862 mm
11.2	E-Size Landscape	44.0”	1118 mm
11	A0 Landscape	46.8”	1189 mm
11.8	Maximum scan width	50.0"	1270 mm
	Maximum media size handled	51.5"	1310 mm

▼ **To insert a document**

1 Place your document face down along the edge of the document insertion slot.
2 Press the “Paper feed” key to move the document up to the start position. The “Ready” indicator lights up and blinks intermittently while the document scans.

▼ **To eject a document**

- When scanning completes, the “Ready” indicator stops blinking. Press the “Paper feed” key to advance the document to eject it from the scanner.

Scanning thick media

You can adjust the insertion thickness space from 0 to 15 mm (0 to .6”) to accommodate thick media such as paper board, foam boards, etc.

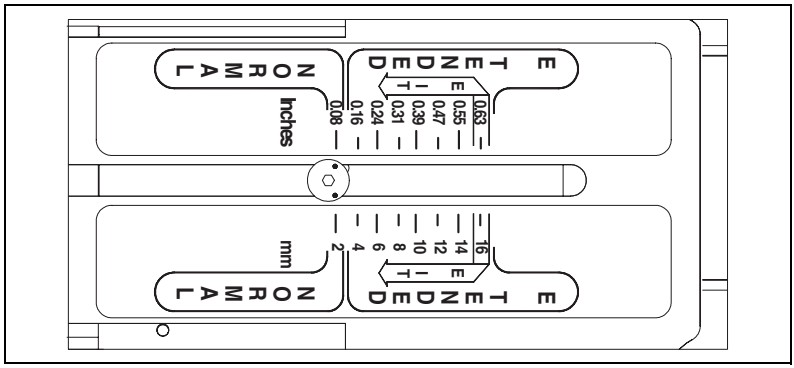
When you use this setting, keep in mind the following:

- Extended media thickness reduces the scanning speed. The normal setting (0) gives the optimal scanning speed.
- Extended media thickness can cause variations in the stitching (overlapping or missing pixels). You can compensate this problem by using a special stitching setup from the software. (See Océ Scan Online Guide for details).
- Insert the document center-aligned, and support it during the scanning process.
- To prevent image distortion, the scanner by default does not scan leading and trailing edges of a document with thick media setting. You can turn off this function from the Océ Scan software.

▼ **To adjust the media thickness**

1. Lift the insertion slot cover.
2. Press down on the right side of the original pressure platen.
3. While holding down the pressure platen, slide the media thickness adjustments to the desired setting.
4. Release the pressure platen, allowing it to come up and lock into place.
5. Repeat for the left side, checking that the same setting applies to both sides.
6. Close the cover.

Setting	Maximum thickness
0 (normal)	2 mm (0.08”)
1	4 mm (0.16”)
2	6 mm (0.24”)
3	8 mm (0.32”)
4	10 mm (0.39”)
5	12 mm (0.47”)
6	14 mm (0.55”)
7	15 mm (0.60”)



[6] Adjusting media thickness

Note: *The scanner performs automatic adjustments of the light profile and stitching only in the normal (0) media thickness setting (2mm/0.08”). When you use a different thickness setting, the scanner stores and reuses the last-effected automatic adjustment. Occasionally, you should return to the normal thickness setting at start-up to allow the scanner to do its automatic adjustments.*

Checking camera alignment

Following the scanner installation, you carry out an initial camera alignment from the Colour Scan software. Thereafter, you only need to perform this alignment once a week after repeated scanning.

You must let the scanner reach the appropriate operating temperature before making this adjustment (2 hours after you switch on the scanner). This operation requires the **height alignment chart** (delivered with the scanner) and a medium flat blade screwdriver.

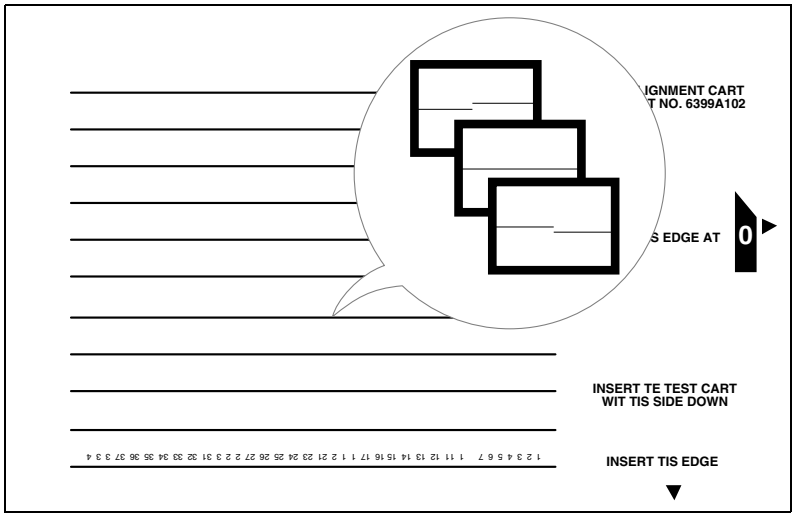
- The CS 4040 has three cameras, A, B, C, starting from the right side of the scanner.
- The CS 4050 has four cameras, A, B, C, D, starting from the right side of the scanner.

Do not adjust camera B, as it is fixed and serves as a height reference for the other cameras.

▼ **To check the camera height**

1. Switch on the scanner and wait two hours for it to reach the optimal temperature.
2. Insert the **height alignment chart** face down into the scanner, lining up the arrow at the center insertion point.
3. Press “Paper Feed”.
4. Start Océ Scan.
5. In the “Scan” window’s “Scan setup” tab, set the mode to “Graytone.”
6. From the “Paper width” box, Set the width to “11.0” scanner units.
7. In the “Adjustments” tab, set the brightness and contrast to “0”.
8. Press **Forward** to prescan.

9 Set the **Detail** window in the center of the **Overview** window in order to view the lines clearly. The lines in the **Detail** window should resemble one of the three shown as follows:



[7] Using the height adjustment chart

▼ **To adjust the camera height**

1 Slide the streamer at the front of the scanner to the left to access the camera adjustment holes.

2 Use the screwdriver to turn the screw through the hole in the front of the camera A hole (approximately 2.5 scanner units from the right) either clockwise or counter clockwise until the horizontal line becomes a continuous line. To update the screen, change the brightness and contrast setting between 0 and 1.
   - **Clockwise:** Line on the right side of the screen moves up.
   - **Counter clockwise:** Line on the right side of the screen moves down.

3 To adjust the camera C, set the **Detail** window centered about halfway in from the left of the **Overview** window. Use the screwdriver through the camera C hole (approximately 8.0 scanner units from the right) and turn until the lines become continuous.
   - **Clockwise:** Line on the left side of the screen moves up.
   - **Counter clockwise:** Line on the left side of the screen moves down.

4 To adjust the camera D, select a **Detail** window centered about three-quarters in from the left of the **Overview** window. Use the screwdriver through the camera D hole (approximately 11.0 scanner units from the right) and turn until the lines become continuous.

- **Clockwise:** Line on the left side of the screen moves up.
- **Counter clockwise:** Line on the left side of the screen moves down.

Camera out-of-light error

When the “Diagnostic” and “Warm-Up” lights blink simultaneously on the control panel, this indicates that one of the cameras has moved out of range during adjustment or transport and does not receive enough light.

Note: *When the “diagnostic” light blinks continuously, turn off the scanner and on again to reset.*

The warm-up light indicates which camera is out of light by the number of flashes per period:

Camera A	1 flash per period
Camera B	2 flashes per period
Camera C	3 flashes per period
Camera D	4 flashes per period

Before adjusting the camera height, perform the following procedure on the camera that is out of light:

Note: *You cannot adjust camera B.*

1. Turn the height adjustment screw eight turns clockwise.
2. Turn the scanner power off and then back on.
3. If the error persists, turn the height adjustment screw sixteen turns counter-clockwise.
4. Turn the scanner power off and then back on.
5. Once you have cleared the error, proceed with the camera height adjustment.
   Note: *If you receive different error signals, note down the frequency of the light flashes and contact your Océ help desk for assistance.*

Performing colour calibration

Once you have installed the scanner and checked the camera alignment, an initial colour calibration performed from the Océ Scan software before scanning ensures long term stability of the linearity, colour balance, and chromacity of your scans. You need to repeat this operation only about once every two months of continuous scanning, or when the quality of scanned colours becomes unsatisfactory.

You must wait two hours after start-up for the scanner to reach its optimal temperature. This operation requires the use of the basic calibration sheet and the **ANSI IT8** calibration sheet provided with the scanner.

▼ **To perform graytone and colour calibration**

1. Start Océ Scan.
2. From the "Scan" menu of the main window, select "Calibrate scanner". A wizard screen appears to guide you through the calibration process.
3. Insert the basic calibration sheet with the calibrated side facing down.
4. Follow the instructions on the screen.
   Note: *Cameras 1, 2, 3, 4 correspond respectively to A, B, C, D as labeled on the calibration sheets.*
5. Insert the the IT8 calibration sheet.
6. Follow the instructions on the screen. The scanner performs the graytone calibration for each camera, then the colour calibration for each camera.
   Note: *When you finish calibration, put the colour chart back in its original envelope and store it in a safe, dry, cool, and dark place for future use. You should replace this colour chart when the colours become faded to avoid mis-calibrations.*

Chapter 4
Scanner maintenance

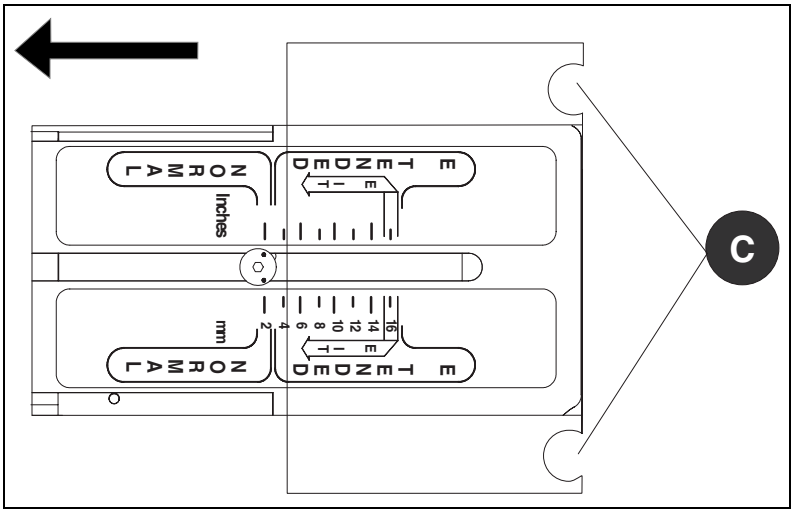
- *Removing the original pressure platen*
- *Cleaning the scanning area*
- *Replacing the white reference platen*
- *Upgrading the scanner firmware*

Removing the original pressure platen

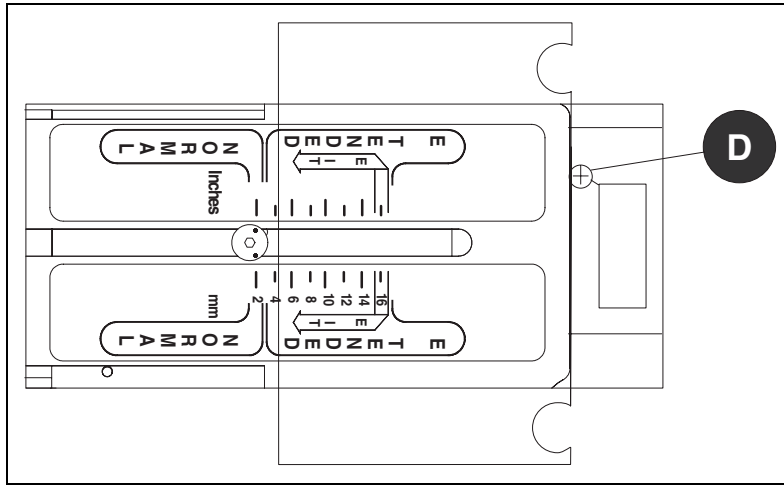
For routine maintenance tasks, you will need to remove the scanner's original pressure platen. This platen is located under the insertion slot cover.

▼ **To remove the original pressure platen**

1. Lift the insertion slot cover.
2. Press down on the right extremity of the platen and with your fingers in (C) slide the media thickness adjustment completely towards the center of the platen.



3 The lock pin D is now visible.



4 Repeat for the left extremity of the platen. Both sides of the platen are now separated from the scanner.
5 Lift the platen up to remove it.
6 Place the platen on the top of the document insertion area.

▼ **To replace the original pressure platen**

1 Put the original platen back in its operating position by first inserting the right hand side of the plate.
Note: *A sticker labeled 'back' shows you the rear side of the platen.*
2 Press down the platen and press down on the locking pin to snap the platen into place.
3 Repeat for the left side of the platen.
4 Close the cover.

Cleaning the scanning area

You can clean the scanning area occasionally to remove residual paper dust. To access the scanning area, you first remove the original pressure platen.

▼ **To clean the scanning area**

1. Switch the power off and disconnect the power cord.
2. Remove the original pressure platen as described.
3. Carefully wipe clean the glass plate with a cleaning solution suitable for computer peripherals.
4. Put the guide plate back in its operating position as described.

▼ **To clean the bottom side of the glass plate**

1. Switch the power off and disconnect the power cord.
2. Remove the original pressure platen as described.
3. Locate a tab at each extremity of the glass plate.
4. Lift the tab upwards. The glass plate swings up, and its bottom side is accessible.
5. Clean the bottom side with a lint-free cloth.

Attention: *Do not spray any solution on this area, or allow any liquid to reach the internal optics. Do not let any object fall inside this area.*

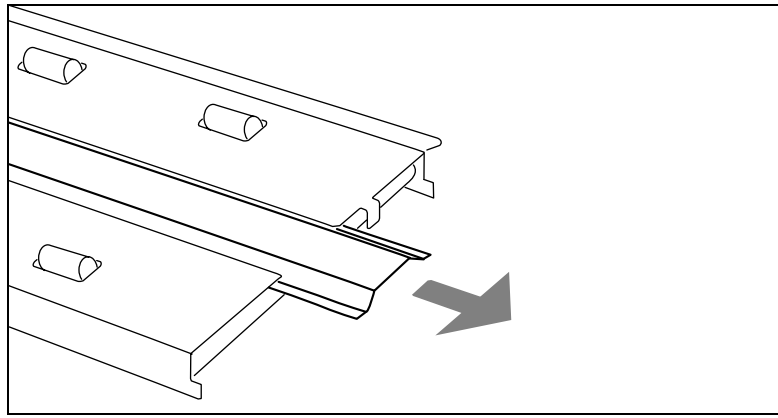
6. Holding the tab, push the glass plate back into position.
7. Replace the original pressure platen as described.

Replacing the white reference platen

After long periods of continuous scanning, we recommend that you change the white reference platen in order to maintain consistently high quality scans.

▼ **To replace the white reference plate**

1. Switch the power off and disconnect the power cord.
2. Remove the original pressure platen as described.
3. With a screwdriver, remove the two screws located at the extremity. Take care not to lose the two small washers.
4. Remove the angle bracket.
5. Turn over the original pressure platen.
6. Gently slide the white reference plate horizontally out of its lodging.



[8] Removing the white reference plate

7. Replace with a new platen by slowly sliding it back into its lodging.
8. Replace the metal angle bracket with the two screws and washers to secure the reference platen in its lodging.
9. Replace the original pressure platen as described.

Upgrading the scanner firmware

The Océ CS 4040/4050 exists in three different configurations. For details about the different configurations, see ‘Scanner configurations’ on page 8.

You upgrade the firmware by replacing the “smart card” located in the scanner. Contact your Océ sales representative to procure a “smart card” corresponding to the configuration you want.

▼ **To upgrade the scanner firmware**

1. At the front of the scanner, locate a streamer with the Océ name. At the left extremity you will find a small tab.
2. Pull on this tab towards the left. The “smart card” holder becomes visible.
3. Push on the holder as indicated to access the “smart card”. You may need to pull the holder out slightly to remove the “smart card”.
4. Replace with a new card.
5. Push the holder back into place.
6. Slide back the streamer.

Appendix A
Technical references

Océ CS 4040/4050 specifications

	I	II	III
Sensors	Quad CCD; 21400 pixels; 36 bits colour data capture		
Resolution	50 to 600 (adjustable in 1-dpi increments)	50 to 800 (adjustable in 1-dpi increments)	
Scan modes	24-bit RGB (16.8 million colours); 4 and 8-bit indexed colour; 4 and 8-bit colour feature extraction; 8-bit graytone; B/W line mode and 2-D adaptive; photo; B/W dithered mode		
Monochrome with gray shades (ADL)	No	No	Yes
2-D sharpen and Soften	No	Yes	Yes
Scan speed, 400 dpi	0.8”/second	1.0”/second	1.3”/second
Colour adjustment	3x3 matrix multiplier; RGB tone curve (gamma); individual settings for B/W points		
Media and scan width	**CS 4040**: Media width of 6.0 to 51.5” (1310 mm); scan width of 40” (1016 mm) **CS 4050**: Media width of 6.0 to 51.5” (1310 mm); scan width of 50” (1270 mm)		
Dimensions (WxHxD)	61.4” x 73”x 18.3” (1560mm x 185mm x 465mm)		
Weight	65kg		
Power	Consumption 180W; Voltage 110-120V/220-240V, 50/60Hz		
Interface	Dual Ultrafast SCSI I/Fs, transfer rate up to 20 Mb/s		
Light source	Dual colour balanced, stabilized fluorescent lamp		
Optics	Apochromatic colour lenses; compact optical path, torsion stabilized for portability		
Features	Single pass scanning for high speed and fine pitch colour registration; colour calibration by standard ANSI -IT8 colour reference chart; CMS support by standard ICC profile		

Appendix B
Safety information

General safety information

For questions about Océ products which are related to health, safety and the environment, please contact your Océ organisation at the address listed in the last appendix of this manual.

Radio interference

Note: *This equipment has been tested and found to comply with the limits for a class A device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the user manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.*

FCC = Federal Communications Commission.

Symbols

Stickers with the following illustrations are used in this machine to indicate parts which should not be touched due to high voltage or extreme heat, or parts which require extra attention:

Symbol	Meaning
	Caution, high voltage
	Caution, high temperature
	Caution

Instructions for safe use

Attention: *Products designed by Océ are developed and tested in conformance with the strictest international safety standards. However, to help assure the safe operation of these products, it is important that:*

- You carry out maintenance only as far as prescribed in this manual.
- You observe the following safety recommendations:

Maintenance

- Do not remove any screws from fixed panels.
- Do not place any liquids on the machine.
- Use maintenance materials or other materials for their original purpose only. Keep maintenance materials away from children.
- To avoid damage and the risk of personal injury, all modifications to Océ equipment are strictly reserved for properly qualified and trained service technicians.

Power connection

- Do not move the machine yourself, but contact your Customer Service.
- If unforeseen circumstances force you to re-install the machine without the assistance of Océ Service, make sure that the machine is connected to a power outlet which is equipped with a fuse or circuit breaker with the appropriate capacity.
- Do not bridge any mechanical or electrical circuit breakers.
- Do not use an extension cord to connect the machine.
- It is recommended to connect only those copy-control products (or other products) which meet the (inter)national product safety and radio frequency interference standards, and to use an attachment cable as specified by Océ.
- This equipment is not designed for connection to an IT power system. (An IT power system is a voltage network in which the neutral wire is not connected to earth.)
- For equipment connected via a wall outlet: place the machine close to an easily accessible wall outlet.
- For equipment connected to the electrical system via a permanent connection: make sure that the disconnect device in the permanent connection is easily accessible.

Ventilation and location

- Do not block the ventilation openings of the machine.
- Make sure that the machine is placed on a level, horizontal surface which is strong enough to bear the full weight of the machine. See the Océ CS 4040/4050 safety data sheet in this appendix for information about the weight of the machine.
- Make sure that there is sufficient space around the machine. This facilitates both proper loading of materials and equipment maintenance.
- Do not place the machine in a room which is subject to excessive vibration.
- Do not place the machine in a room that is too small and insufficiently ventilated. See the Océ CS 4040/4050 safety data sheet in this appendix for information about space and ventilation requirements.
- Do not place the machine in rooms subject to ◆.
  (see PSQD)

General

- Always use materials recommended by Océ and developed for this Océ machine. Materials not approved by Océ may cause damage to your machine.
- Do not use the machine if it is making unusual sounds. Remove the plug from the power outlet or turn off the switch in the fixed connection to the electrical system and contact Service.

Safety data sheet for the Océ CS 4040/4050

Disclaimer This safety data sheet was compiled as a compact guide to safe product handling and operation, and to the best of our knowledge contains the most complete and accurate information possible. We reserve the right to revise this safety data sheet as new information becomes available. It is the user's responsibility to determine the suitability of this information for the adoption of the appropriate safety precautions for his organization, and to contact Océ to make sure that he is in possession of the latest version of the sheet. If and insofar as limitation of liability is permitted under the applicable laws, we accept no liability for any inaccuracies in this safety data sheet.

Note: *Not all safety data sheets were available at the moment this manual was published. The Océ organisation in your country will be pleased to send you a copy of the missing sheets. You can find the address of the Océ organisation in your country in the last appendix of this manual.*

Safety data sheet Océ CS 4040/4050

Not yet available !

Appendix C
Miscellaneous

How to read this manual

The consistent style that is used in this manual enables you to quickly become familiar with the use of this manual and ultimately the Océ CS 4040/4050 .

Description Each section or subsection contains a description of the feature or operation identified in the title. It might also include possible applications, as well as any guidelines that you should bear in mind.

Procedures A description is followed by a procedure. A procedure always begins with a phrase which briefly describes the procedure, followed by a series of numbered steps that take you, step by step, through all phases of performing the operation.

Figures and tables Figures and tables are titled and numbered sequentially throughout this manual. Figures include pictures of product components, screen dumps, examples, and diagrams of concepts discussed in the description.

Attention getters There are several types of information to which we draw your attention. This information is classified as follows:

Note: *In a 'Note', information is given about matters which ensure the proper functioning of the machine or application, but useful advice concerning its operation may also be given.*

Attention: *The information that follows 'Attention' is given to avoid damage to your copy or original, the copier or printer, data files, etc.*

Caution: *The information that follows 'Caution' is given to prevent you suffering personal injury. .*

User survey

Did you find this manual to be accurate?
- ❏ Yes
- ❏ No

Were you able to operate the product after reading this manual?
- ❏ Yes
- ❏ No

Does this manual provide adequate background information?
- ❏ Yes
- ❏ No

Is the format of this manual convenient in size, easy to read and layed out well?
- ❏ Yes
- ❏ No

Did you find the information you were looking for?
- ❏ Always
- ❏ Most of the times
- ❏ Sometimes
- ❏ Not at all

How did you find the information you were looking for?
- ❏ Table of contents
- ❏ Index
- ❏ Neither

Are you satisfied with this manual?
- ❏ Yes
- ❏ No

Thank you for evaluating this manual.
If you have any other comments or concerns, please explain them on the following page.

Comments:

Date:

This reader's comment sheet is completed by:

Name (optional):

Occupation:

Company:

Phone:

Address:

City:

Country:

Please return this sheet to:

Océ-Technologies B.V.
Attn: ITC-User Documentation
P.O. Box 101
5900 MA Venlo
The Netherlands

Addresses of local Océ organizations

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Taiwan, RO

Océ (Thailand) Ltd.
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Océ-U.K.Ltd.
Langston Road
Loughton, Essex IG10 3SL
United Kingdom

Océ-USA Inc.
5450 North Cumberland Av.
Chicago, Ill. 60656
U.S.A.

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